

# EXECUTIVE FUNCTIONING IN AUTISM SPECTRUM DISORDER: CHARTING HETEROGENEITY AND DELINEATING SUBGROUPS

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Abstract (max. 250 words):

**Introduction:** Numerous studies have shown impairments in executive functioning (EF) in individuals with autism spectrum disorder (ASD) compared to typically developing (TD) controls. However, the often large inter-individual variability suggests that these impairments are not universal for ASD. We aim to chart the heterogeneity of EF within our ASD sample and investigate whether we can delineate more homogeneous subgroups with a similar EF profile. Finally, we want to investigate whether these different subgroups are also characterized by differences in ASD symptomatology.

**Method:** Nine tasks and one questionnaire were administered from 58 individuals with ASD and 58 TD controls (8-to-18 years), to measure five EF domains. ASD symptomatology was measured with the Social Responsiveness Scale and the Repetitive Behavior Scale – Revised.

**Results:** Multiple case series analyses showed that none of the EF impairments were present in all individuals with ASD, with large inter-individual differences in the type and number of EF domains that were impaired. Interestingly, 19% of the individuals showed no impairments on any of the EF tasks and 38% even performed better than controls on at least one task. Cluster-analyses, revealed three ASD subgroups with a different, more homogeneous EF profile. We are currently investigating whether the different clusters differ on ASD symptoms.

**Discussion:** Our findings provide a more nuanced picture concerning EF impairments in ASD and indicate the importance of determine an individual profile of both strengths and weaknesses. Defining different EF profiles could be relevant for clinical practice, as each subgroup may benefit from a different treatment.

**Keywords (3):** autism spectrum disorder, executive functioning, heterogeneity

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